Testimony of Frank R. Lanou, Jr. before the Department of Health and Environmental Sciences of the

BEFORE THE

DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
THE STATE OF MONTANA

IN THE MATTER OF THE APPLICATION OF
THE METALLURGICAL DIVISION OF
THE ANACONDA COMPANY,
A MONTANA CORPORATION,
FOR VARIANCE FROM THE SULFUR OXIDE
EMISSION REGULATIONS OF ITS COPPER SMELTER
AT ANACONDA, MONTANA

TESTIMONY OF
FRANK R. LANOU JR.

MAY 1974

CH2M HILL
CORNELL, HOWLAND, HAYES & MERRYFIELD
CLAIR A. HILL & ASSOCIATES
ENGINEERS · PLANNERS · ECONOMISTS

B E F O R E

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* * * *

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Q. Please state your name and address.

A. Frank R. Lanou, Jr. My business address is 777 - 106th Avenue Northeast, Bellevue, Washington. My home address is 319 - 101st Avenue Southeast, Bellevue, Washington.

Q. What is your occupation?

A. I am a Senior Economist for CH2M HILL, Inc. The firm has offices in Corvallis and Portland, Oregon; Juneau and Anchorage, Alaska; Redding, Sacramento and San Francisco, California; Denver, Colorado; Reston, Virginia; Boise, Idaho; and in Bellevue, Washington, where I work.

Q. Please review your education.

A. I have a Bachelor of Arts degree from the University of Tennessee, 1954; a Master of Arts degree from the Fletcher School of Law and Diplomacy, which is administered jointly by Tufts and Harvard Universities, 1955. I also studied for 2 years at the University of Paris, France, and the Institute of Political Studies, Paris, France. After completing my Master's degree, I took further courses at the New York University Graduate School of Business Administration.

Q. What were the principal fields covered in your studies?

A. On the undergraduate level my principal fields of concentration were Economics and Political Science. On the graduate level my field of concentration was in Economics. My courses at the

New York University Graduate School of Business Administration were in the field of Accounting and Corporation Finance.

Q. Please outline your business experience.

A. In 1955, I joined the Finance and Economics Division of the Texas Company, which is now called Texaco, Inc., in New York, as an economist. My work in this capacity included economic and financial evaluation of proposed investments in refining and marketing facilities; strategic planning; preparation of economic analysis in connection with litigation; and general economic staff work. Following that position, I was employed by the Standard Oil Company, New Jersey, now called Exxon Corporation, in the Cargo Sales Department of Esso International, Inc., a subsidiary. In this position, I was involved in the formulation of competitive pricing strategy, and intracompany price determination. I was also engaged in research of competitive markets. In 1964, I joined Zinder International Ltd., a subsidiary of H. Zinder and Associates, Inc., as an economic consultant. My work in this firm included a broad variety of economic studies in the fields of economic development, marketing, finance, and public utilities. For example, I participated in a major study of multinational economic developments, for the InterAmerican Development Bank; for the United Nations, I participated in a study of the feasibility of the development of hydroelectric and other natural resources in Africa. For the Economic Development Administration of the Commonwealth of Puerto Rico, I studied markets for Puerto Rican

products and analyzed foreign trade problems. In 1971, I joined CH2M HILL, Inc., where I am presently a Senior Economist. My work for this firm has involved economic studies in the fields of regional economic development, feasibility reports for investments, public utility economics, and marketing and financial analyses. I have supervised research on economic base studies of regional growth trends in the states of Washington, Oregon, Idaho, and Nevada, in conjunction with regional planning efforts, environmental impact statements and public utility load growth forecasting. I have also worked in the field of natural resource development and have conducted public utility analyses in the fields of electric power, natural gas, water supply, waste water treatment, solid waste and materials reclamation, public ports, and public transportation. I have conducted studies of cost of service, cost of capital and rate of return, rate analysis, forecasts of availability and price of fuels, load and resource forecasting, financial planning, alternative investment evaluation, and determination of feasibility. I am also a consultant to several major American corporations with regard to energy availability, price, contract and strategy problems

Q. What types of clients have you had in your consulting practice?

A. I have been a consultant to national governments, regional governments, local governments, electric and gas utilities, industrial firms, and international agencies. My assignments have taken me to New York, Washington, D.C., New Jersey, Connecticut, Wisconsin,

Illinois, Kentucky, Virginia, Georgia, Montana, North Carolina, Oregon, Idaho, California, Arizona, New Mexico, and Texas. I have also worked in Canada, Puerto Rico, Western Europe, North Africa, West Africa, the Near East, Asia, Australia and New Zealand, and South America.

Q. Mr. Lanou, what is your assignment in the current proceeding?

A. In April of 1974, I was asked by the Anaconda Company to assist in the investigation of the economic importance of Anaconda's Smelter Operations to the state of Montana and to the local regional economy.

Q. Will you tell us briefly how you went about preparing the testimony you are presenting?

A. Yes. The analysis proceeded from the first step, which was a field trip to Montana to view the Anaconda operations and the local economy firsthand. Two of my associates and I gathered data from Anaconda and government agencies and from the University of Montana to provide us with views and opinions on the economy of the state and the local counties in which Anaconda operates. We then conducted statistical analyses, which I will present in the body of my testimony, and drew certain conclusions about the importance of the Anaconda operations to those of the local and state economy as a whole.

Q. Would you tell us what approach you take in determining the contribution of the Anaconda Company to its local and state economy?

A. First, we describe the economy in statistical analysis. Second, we describe Anaconda's contribution. Finally, we can analyze Anaconda's impact on the economy.

Q. How would you measure Anaconda's contribution?

A. Anaconda's contribution to the local and state economy can be measured in three distinct ways. We can measure the contribution of the Company to the number of jobs available in the local economy. In addition, we can measure the Company's contribution to the amount of earnings of workers, individuals, and proprietors in the region. We can also measure the contribution of the Company to taxes, both locally, and statewide.

Q. Would you now turn to your exhibit, Exhibit ___ (FL1), page 1, and tell us what that shows?

A. Page 1 shows population trends in Montana and selected counties and cities from the year 1950 to 1973. As will be seen, Montana's overall population has grown from about 591,000 in 1950 to a level of 721,000 in 1973. In the period from 1960 to 1973, Montana population grew 6.85 percent. This is about 0.5 percent per annum. During the same period of time, as shown at the bottom of the table, the United States population grew over twice as fast as Montana, 16.6 percent, which is approximately 1.2 percent per annum. Deer Lodge County, which is the location of the Anaconda smelter, lost population in the 1960's. In 1960 population was 18,640, and in 1973 it had fallen to 15,800. Silver Bow County, which is the location of the Butte mining

operations, also lost population from a level of 46,454 in 1960 to 42,000 in 1973. In the third column from the right, we have combined population data for Deer Lodge and Silver Bow counties. The combined population of these two counties has fallen 10.9 percent from 65,094 in 1960 to approximately 58,000 in 1973.

Cascade County, which is the location of Anaconda's refinery at Great Falls, grew at a rate more in line with the United States as a whole, from a little over 73,000 persons in 1960 to nearly 84,000 in 1973. Population is estimated to have been slightly higher in 1971 and 1972, than at present.

Q. Will you turn now to the table on page 2 of your exhibit and explain that to us?

A. This table is important in understanding why the population of Montana is undergoing the changes that we have seen in the table on page 1. The population of Montana increased 46,233 from 1960 to 1973 as shown in the first column on the left. There was a natural increase of 92,350 births (births minus deaths). However, there was a net outward migration, as shown in the third line, of 46,117. In the bottom line we see that the net outward migration amounted to 6.8 percent of the state's population in 1960. In Deer Lodge and Silver Bow Counties, there was sizeable outward migration between 1960 and 1973. Deer Lodge lost 22.2 percent of its 1960 residents to outward migration, while Silver Bow lost 17.5 percent. Both counties combined lost 18.9 percent. In

Cascade County outward migration was equivalent to 8.5 percent of 1960 population.

Q. Mr. Lanou, to what do you attribute this outward migration?

A. This is a complex problem. There is a continuing trend, which has been the subject of national concern, away from smaller communities toward big cities throughout the United States. However, we can see that in Deer Lodge and Silver Bow counties the outward migration is particularly severe compared to the trend for the state of Montana as a whole. A contributing factor probably is a lack of job opportunities.

Q. Would you now turn to the exhibit on page 3 and tell us what it shows?

A. The table on page 3 shows the distribution of employment in Montana compared to that for the United States as a whole for the year 1970. It shows, for example, that 13.7 percent of all employment, including self-employment, in Montana is in agriculture versus only 5 percent for the United States as a whole. Most important for the purposes of our analysis, the table tells us that only 8.4 percent of employment in Montana in 1970 was in manufacturing versus the national average of 22.7 percent. However, mining was over three times as important in Montana as in the nation as a whole, with 2.3 percent versus the national average of 0.7 percent.

Q. I see that page 4 of your exhibit also discusses employment in Montana. What is the significance of this table?

A. This table, which is based on the latest data that we have available from the U.S. Bureau of Economic Analysis, Regional Information System, shows us the trend of employment in the state of Montana between the years 1967 and 1971. Total employment in the state rose from approximately 275,000 jobs in 1967 to 286,794 in 1971, which was a change of only 4.2 percent, or approximately 1 percent per annum. From the standpoint of our analysis here, it is important to note that there was a decline in farm employment of 6.6 percent, and a very modest increase in mining and manufacturing employment of 2.3 percent. Wholesale and retail trade gained 10.4 percent, and the category finance, insurance, and real estate gained 12.9 percent. There was also a substantial increase of 16.5 percent in miscellaneous other employment including nonfarm proprietorships. During the period covered by page 4, total employment in the United States grew 1.3 percent per annum, versus 1.0 percent for Montana. Census figures show that between 1960 and 1970 employment in the United States grew an average of 1.7 percent per year, compared to a Montana average of 0.6 percent. Therefore, it can be said that employment in Montana is growing more slowly than for the United States economy as a whole.

Q. Please turn to the exhibit on page 5 and describe that for us.

A. Here we have employment trends in Deer Lodge and Silver Bow Counties. Employment in Deer Lodge County went from about 5,300 in 1967 to a little over 6,000 in 1971. Employment in Silver Bow County

remained essentially stagnant at about 14,800. For the two counties combined there was a drop in farm employment of 8.8 percent, a pronounced increase in government employment of 12.0 percent, and a very slight drop in manufacturing and mining employment of 0.2 percent. There was a pronounced decline in construction employment between the 2 years, although this is only a small part of total employment in the two counties. Transportation and public utilities also suffered a decline of 6.8 percent. Other sectors gained, including wholesale and retail trade, which gained 9.8 percent; finance, insurance, and real estate, which gained 6.1 percent; services, which gained 6.1 percent; and other, including nonfarm proprietary, gaining 6.5 percent.

Q. Would you now explain the table on page 6?

A. Page 6 shows employment trends for Cascade County, where Anaconda's Great Falls refinery plant is located. In this county, employment has increased 4.2 percent from 33,684 to just over 35,000 from 1967 to 1971. There were pronounced losses in manufacturing and mining and in construction in the county of 15.6 percent and 20.5 percent, respectively, and a somewhat smaller loss of 4.9 percent in the farm sector. The strongest gain in employment was registered in wholesale and retail trade with 24.6 percent. There were also advances in the other sectors, but it will be seen that government increased at a substantially lower rate than it did in Deer Lodge and Silver Bow Counties. However, employment in government in Cascade County is 2.6 times as great as it is in

Deer Lodge and Silver Bow Counties, combined.

Q. I see that the exhibit on page 7 also deals with employment. Could you describe its significance for us?

A. The exhibit on page 7 describes local and basic employment and earnings in Silver Bow and Deer Lodge Counties in 1970.

Q. Would you describe what is meant by these terms, "basic and local employment?"

A. It is generally accepted in the theory of regional economic development that the prosperity of a region is most dependent upon the strength of so-called basic or export oriented industries. For example, growth in any economic region is given its greatest impetus by those industries which export products to regions outside the local economy. Industries which produce more than a region needs are classified as export or basic industries. Export, or basic, industries are those which specialize in the production of certain goods or services in excess of the region's needs. The output of such industries is sold primarily to purchasers from outside the region. The industries other than the basic or export industries are termed local or residentiary industries. Typically these include the industries which service the local population and the local and export industries. They require no special natural resources and they exist solely on the basis of the local population and the export industries.

Looked at this way, the export or basic industries are the

wellspring of demand for employment in an area. As demand for the output of a basic industry increases, the earnings of the workers in this industry increase, either by additional income accruing to the industry's workers because of overtime, or by the addition of workers in the area who are unemployed being hired in the industry, or by new workers being brought in from other areas.

As the incomes of workers in basic industries expand, they in turn create additional demand from the local industries. The new higher level of incomes in both the export and the local industries creates further demand on local and import services. This entails increased retail trade, increased demand for transportation, financial services, entertainment, auto repair, public education, and so forth. This continuing addition to the overall demand for goods and services in a region is known in economic theory as the multiplier effect. Stated simply, it means that each dollar of new income to a worker will in turn be reflected in some increase in the incomes of workers in other industries.

Q. How do we determine which are basic or export industries and which are local or residentiary industries?

A. This is basically a question of combining statistical techniques with certain judgments. There are no hard and fast rules for determining which are basic and which are residentiary industries. However, in practice it is usually fairly easy to arrive at a

reasonable judgment with regard to most industrial sectors. For example, no one would quarrel that the mining industry and the metal processing industry in Montana is an export industry. In fact, in Montana, the task of identification is fairly simple.

We may also make a comparison between the percentage of workers employed in any given industry in the local region with the percentage of workers in that industry for some larger economic region which is taken as a basis for comparison. For example, we could compare the state of Montana to the United States as a whole and we would see, as we already have, in Exhibit ___ (FL1), page 3 that there is a substantial difference between the distribution of employment in Montana and the distribution in the United States.

Q. What method was used to arrive at the breakdown between local and basic employment in 1970 in Exhibit ___ (FL1), page 7, covering Silver Bow and Deer Lodge Counties?

A. In computing the data in page 7 of my exhibit, we used a combination of statistical techniques and judgmental factors. With regard to the statistical basis, we compared the economy of Silver Bow and Deer Lodge Counties to that of the state of Montana as a whole to arrive at the breakdown of local versus basic industry. To this were added certain judgmental factors based upon observation of the economy.

Q. Please now describe the data shown in page 7.

A. The most important fact which emerges from the table on page 7 is that mining and manufacturing constitutes the most significant basic, or export, industry in Deer Lodge and Silver Bow Counties. With 5,874 employees out of a total of 6,125 employees, 95 percent of mining and manufacturing in the two counties is export oriented. The next biggest export industry in the two counties, with 922 employees in the basic sector, is services--reflecting the area's role as a center for the region's economy. There is also some export activity in wholesale and retail trade and in transportation, communications, and utilities and in the government sector, but it is minor. We also see that the farm sector contributes to the basic employment of the two counties.

On the right-hand side of the table we see the relative earning power in terms of the wages paid and the receipts of private ownership, in the export and local segments of the economy. It will be seen that by far the most important segment of earnings, as with employment, rests with the export sector of manufacturing and mining.

At the bottom of this table, we see a number calculated for the multiplier effect of the export or basic industries, in terms of employment, or number of jobs, and in terms of dollar earnings. We see that for each job in basic industry, there are 2.68 jobs in the economy as a whole of the two counties. We see that for each dollar of earnings in the basic industries, there are $2.26 of earnings for the economy of the two counties as

a whole.

Q. Could you explain the most important facts which emerge from an examination of the table on page 7?

A. Yes. The most important facts which emerge from this table are that manufacturing and mining are the economic mainsprings of the Silver Bow and Deer Lodge county economies, measured by the yardstick of their importance in exporting the goods and services of the county to other regions. The smelter at Anaconda and the mines at Butte are in this category. The table also tells us that for every job in a basic, or export, industry in the two counties, there is a total of 1.68 other jobs related to it. It also tells us that for every dollar of earnings in basic industry, another $1.26 of income to other residents of the county is related to the earnings of the basic industry.

Q. Would you now turn to the table on page 8 of your exhibit and explain that to us?

A. On page 8 we have a similar breakdown to that on page 7 for Cascade County where Anaconda's refinery at Great Falls is located. It shows us that manufacturing, which is the category that Anaconda's reduction plant falls into, is the second most important basic industry employer in the county, the first being governmental services, which includes a substantial military operation. In Cascade County, 2.55 jobs may be said to relate to every one job in basic industry, and $2.42 of earnings in the county is related to each dollar of export industry.

Q. Isn't there a possibility that your figures on the job and income multipliers in Deer Lodge, Silver Bow, and Cascade Counties are substantially overstated? Surely, even if these so-called export industries were removed from the county altogether there would still be people and jobs in these localities.

A. Very probably there would still be jobs and people left in these localities. However, our estimates have been made on a very conservative basis, consistent with existing economic theory. If, for example, we had computed multipliers based solely on the employment in Deer Lodge and Silver Bow Counties compared to the average distribution of employment for the United States, we would have arrived at a substantially higher multiplier for employment: 3.17, compared to our estimate of 2.68.

Q. What does that imply?

A. If, for some reason, a basic industry was removed, the assumption of a higher multiplier would imply a greater proportional loss of jobs than at the conservative estimates that were used in our analysis.

Q. Could you summarize the importance of the data on pages 7 and 8?

A. The economy of Silver Bow and Deer Lodge Counties in particular rests on a very narrow resource base. Cascade County is somewhat more diversified. Taking away a key export industry, such as mining, and the export capability that it implies would severely curtail the level of economic activity. Farmers would certainly

be able to continue growing crops and raising livestock, but the basis for a large segment of the jobs in the area would disappear. It is worth noting that the grand total of employment in agriculture in the three-county area in 1971, as shown by the exhibits on pages 7 and 8, is only 1,677 jobs out of a total of 56,893, or 2.9 percent. Without the basic industries, people in the counties would migrate to jobs in other regions, or rely on external assistance from the state and federal governments.

Q. Would you now turn to the exhibit on page 9 and explain that to us?

A. The exhibit on page 9 presents the amount of tax assessments in the state of Montana from 1970 to present. Property taxes are shown for Silver Bow, Deer Lodge, and Cascade Counties, and other counties. We also show state tax assessments of the Department of Revenue in various categories, including the Metalliferous Mines License Tax, Corporation Licenses Tax, Natural Resource Indemnity Taxes, Income Taxes, and other taxes of the State Department of Revenue, as well as Unemployment Insurance payments. The figures shown for total taxes assessed in the state are the best estimates that we could obtain on short notice. It may be that they do not contain all tax assessments by state and local government, but we believe they contain substantially all of them.

The table shows us that in the latest year, the State Department of Revenue will collect $152.7 million and the State Unemployment Insurance, $9.5 million, bringing

total state collections to $162.2 million. Approximately 16.9 percent of all property taxes collected in the state of Montana are collected in the three counties in which Anaconda operates. In the current fiscal year, the total of the three-county property taxes is $36,974,000 out of a total of $219,101,000.

Q. Would you please turn to the second section of your exhibit and tell us what is on the table on page 10?

A. Section 2 of my Exhibit ___ (FL1) discusses the operations of the Anaconda Company at Anaconda, Butte, and Great Falls. In the exhibit on page 10, we see the relative amounts of copper produced at the three locations in terms of millions of pounds of refined copper equivalent. It should be understood that copper mined at Butte is combined with large amounts of rock and dirt and other minerals, so that the total volume taken out of the Berkeley pit is far larger than the numbers of pounds shown in the exhibit on page 10. We see that the amount of copper mined went from 207.7 million pounds in 1969 at Butte to 265.1 million pounds in 1973, after having dropped sharply to 176 million pounds in 1971. The amount of copper smelted at the Anaconda plant went from 287.5 million pounds in 1969 to 353.5 million in 1973. At the Great Falls refinery, 335.5 million pounds were refined in 1969. That was against 316.9 million in 1973. It will be seen that the volumes smelted at Anaconda are larger than those mined at Butte. This is because the Anaconda smelter also processes concentrates from other mines outside

Montana. Volumes refined at Great Falls differ from those smelted at Anaconda for various reasons, but over the 5-year period they are nearly equal.

Q. Would you now turn to the exhibit on page 11 and tell us what it contains?

A. The exhibit on page 11 gives a comprehensive breakdown for the year 1973 of payments made by the Anaconda Company by location of payment. The purpose of the exhibit on page 11 is to provide an idea of the types of expenditures that the Anaconda Company Montana copper operations make, so that we may understand their effect on the economy, and also to give some feel for the amounts of money involved. This table shows that the Montana copper operations of the Anaconda Company purchased $169 million of goods and services from its employees and from its various types of suppliers in the year 1973. Of this total 69.2 percent, or $117 million, were spent within the state of Montana, and of that total, all but 4.1 percent were spent within Deer Lodge, Silver Bow and Cascade Counties. The table shows that $64 million was spent on salaries and wages, approximately $45 million on supplies, $10.6 million on power and natural gas, $12.5 million on transportation, $4 million on contruction and drilling contractors, $9.3 million on taxes and other governmental payments, and $23.5 million on other types of expenses.

Q. Does this imply that if the Montana copper operations were to shut down, Montana would lose $117 million in revenues to individuals

and others?

A. Not entirely. The payments shown on page 11 as made in Montana are not necessarily going to stay in Montana. For example, we know that a great deal of the supplies and equipment purchased by the Anaconda Company in Montana comes from outside of the state. There is no convenient way for us to segregate precisely how much of which is which. Also, we know that a good deal of the transportation payments of $11.5 million made to other regions for example, to the headquarters of the Burlington & Northern Railroad in St. Paul, Minnesota, are actually spent within the state of Montana to pay for locally purchased labor and supplies. The same is also true for payments to specific Montana counties. Montana Power is paid in Butte, but serves in all three counties.

Q. What does the exhibit on page 12 show?

A. The exhibit on page 12 shows Anaconda's Montana copper operations expenditures for capital plant and equipment from 1963 to 1973. Over this 11-year period, Anaconda has invested $197,656,000 in expansion and modernization of its Montana operations.

Q. What is the purpose of showing this data?

A. The purpose of showing this data is two-fold. First of all, it is to demonstrate that Anaconda must continuously invest money in its mining, smelting, and refining operations in Montana in

order to keep them going. Secondly, the amount invested in any given year varies widely. For example, in the exhibit on page 12, we see that it varies from a high of 41.2 million in 1963 to a low of 2.7 million in 1968. The average amount of investment over the 11-year period is approximately $18 million. Therefore, the figures for total expenditures, including capital expenditures, shown in the exhibit on page 11 are subject to considerable fluctuation. For example, the figures on page 11 were for 1973, which was a year of below average capital investment by the company. In 1972, on the other hand, capital investment was substantially greater.

Q. What is in the exhibit on page 13?

A. On page 13 we see the historical trend of employment at Anaconda's Montana copper operations from 1950 to 1973. Total employment has declined from about 9,700 workers in 1950 to 5,700 workers in the two most recent years. In recent years, employment has stabilized at between 4,800 and 5,900. The Butte operations employ the greatest number of workers with approximately 3,300 workers in 1973 and the next greatest number of workers is at Anaconda with 1,680 workers. By comparison, the Great Falls refinery with 427 workers and the wire and cable mill with 109 workers are fairly small, as is the Butte, Anaconda, and Pacific Railroad, which is a small company owned railroad between Butte and Anaconda.

Q. Would you please turn now to exhibit on page 14.

A. Here we have the wages and salaries paid by Anaconda's Montana copper operations between the years 1963 and 1973. It will be noted that the total payroll has gone from $43.6 million in 1963 to a high of $64.0 million in 1973. As would be expected, the bulk of earnings is at Butte with $37.6 million and an additional $16.9 million at Anaconda. By comparison, the reduction plant at Great Falls, and the wire and cable mill, and the Butte, Anaconda, and Pacific Railroad are considerably smaller.

Q. What is in the exhibit on page 15?

A. Page 15 shows the average earnings per employee of Anaconda's Montana copper operations from the year 1963 to the year 1973. It will be seen that these average earnings have increased steadily, from $7,596 per year in 1963 to $11,274 in 1973.

Q. Would you now turn to the exhibit on page 16 and tell us what that shows.

A. Table 16 shows the amount of taxes paid to state and local governments by Anaconda's copper operations in the state of Montana from 1969 to the present. Anaconda's total tax payments in the state have gone from $8.8 million in 1969 to over $11 million in 1973. Various payments directly to the state of Montana have gone from 1.8 million in 1969 to 3.3 million in 1973. The total amount of business and licenses taxes paid to the state and the three counties has gone from 4.5 million in 1969 to 5.6 million in 1973. Property taxes paid to the three counties went

from 4.3 million in 1969 to 5.4 million in 1973.

Q. Would you turn now to part III of your Exhibit ___ (FL1) and tell us what is contained therein.

A. Part III summarizes the contribution of the Anaconda Company to the local economy. In the exhibit on page 17, we find a comparison between the total amount of employment in Silver Bow, Deer Lodge, and Cascade Counties, as shown in previous exhibits, and the direct and indirect employment attributable to the Anaconda Company. The data on Anaconda direct employment are taken from the employment data in Exhibit ___ (FL1), page 13. The Anaconda indirect employment has been computed using the multipliers in the exhibits in page 7 and page 8 for the various counties. The table shows that for Silver Bow and Deer Lodge Counties 5,144 jobs are directly attributable to Anaconda and 8,642 jobs indirectly attributable, for a total of 13,786. This represents 61.8 percent of the jobs in the two counties in 1973. Moreover, Anaconda's contribution has become relatively more important. In 1967, only 50.4 percent of the two-county job total was attributable to Anaconda. Now, it is over 61 percent. By contrast in Cascade County, only 3.8 percent of the jobs, or 1,367 out of over 35,930 are attributable to Anaconda. The total of the three counties combined, approximately 26.0 percent of the jobs are attributable to Anaconda.

Q. Would you tell us what is in the graph on page 18 of your exhibit?

A. On page 18 the graph portrays the data shown in the table on

page 17 covering direct Anaconda employment and indirect effects, and other employment in Silver Bow and Deer Lodge Counties. The preponderant role of Anaconda in the employment in the counties is most clearly demonstrated in this chart. For example, in 1968, a dip in Anaconda employment produced a sharp decline in total employment in the county, represented by the top line on the graph. The gradual buildup of Anaconda employment to another peak in 1970 also clearly resulted in a peak in total employment in the county. The strike at Anaconda in 1971 was reflected in the indirect and other employment in the county. For 1972 and 1973 we do not have an official estimate of total employment, but we have made our own based on a trend-line projection.

Q. Please turn now to page 19 and explain that graph to us.

A. The graph on page 19 shows that for Cascade County, the overall impact of Anaconda is relatively much less than the other two counties. Even adding in the indirect impact, the total Anaconda effect is only 3.8 percent of employment.

Q. Please explain to us what is shown in the table on page 20.

A. The table on page 20 shows the dollar volume of personal earnings to wage earners and proprietors in the three counties under discussion, as computed by our methodology and based on the same preceding tables which generated the earnings multipliers. In Deer Lodge and Silver Bow Counties, we see that $56.4 million

of earnings came directly from Anaconda in 1973. About $71 million are indirectly attributable to Anaconda, for a total Anaconda induced contribution, in 1973, of $127.5 million. This amounts to 69.5 percent of the earnings of all employees and proprietors in the county. Moreover, the data in table 20 shows that Anaconda's role in the money earnings of the two counties has increased faster than its total contribution to the number of jobs. In 1967 Anaconda's direct and indirect contributions to county earnings amounted to 52.1 percent, and this has now risen to 69.5 percent, an increase of 33.4 percent. As stated earlier, in 1967 Anaconda was responsible for about 50.4 percent of all the jobs in the two counties as well. This has now risen to 61.8 percent, an increase of 22.6 percent, or substantially less than the increase in income impact.

Q. What does this mean?

A. Stated simply, Anaconda workers are better paid than others in the counties, and their pay has been getting proportionately higher. From the data shown in my previous exhibits, we can compute that Anaconda workers were paid 29.3 percent better than other workers in Silver Bow and Deer Lodge Counties in 1967. In 1971 Anaconda pay had risen to 48.4 percent higher than the average for others in the county.

Q. What is the second part of the table on page 20?

A. The second part of the table shows us that in Cascade County, Anaconda's $7.6 million direct contribution to local earnings and

its indirect contribution of $10.8 million are much lower than in Silver Bow and Deer Lodge Counties. In Cascade County, Anaconda's total contribution of $18.4 million represents only 5.7 percent of total earnings in the county.

For the three counties combined, Anaconda's direct contribution of $64.0 million and its indirect contribution of $81.9 million results in a total of $145.9 million out of the three-county total of $504.8 million, or 28.9 percent. This means that almost 30 percent of the earnings of workers and proprietorships in the three-county area are directly or indirectly dependent on Anaconda.

Q. Please describe for us what is shown in the table on page 21.

A. The table on page 21 compares Anaconda's contribution to the economy in a different way. It shows the role of Anaconda in contributing to the tax base of the counties and the state. The top part of the table on page 21 shows taxes paid to the state of Montana. About $3.3 million of taxes are paid by the company directly. An additional $2.0 million of personal income taxes are paid by Anaconda employees. Taxes indirectly attributable to the company were computed using the earnings multiplier derived in the tables on pages 7 and 8 of my exhibit. These amount to $6.9 million, for a total Anaconda directly and indirectly attributable flow of taxes to the state government of $12.2 million, or 7.5 percent of collections by the state government.

On the bottom of the table we see property taxes directly and indirectly attributable to the company. The company itself

paid $8.6 million in 1973. Company employees are estimated to have paid $1.5 million. The latter estimate was made on a basis of the average property tax payments of householders in each county. Indirectly attributable property tax payments amounted to $5.6 million. These include payments by businesses and individuals, and were calculated, again, using the earnings multipliers from the tables on pages 7 and 8, and average property tax payments by householders in each county. Total direct and indirect Anaconda tax payments amounted to $15.7 million or 7.2 percent of all property taxes paid in the state. For Silver Bow and Deer Lodge Counties the Anaconda percentage was much higher: 71.9 percent and 83.7 percent, respectively. Anaconda's directly and indirectly attributable share of total taxes was $28 million, or 7.3 percent of all tax collections in the state of Montana.

Q. Mr. Lanou, will you now please summarize the highlights of your testimony?

A. I have reviewed the population levels for the state of Montana and seen that population growth, at about 0.5 percent per year, is lagging behind the growth rate for the United States as a whole, which is 1.2 percent per annum, in the period 1960 to 1973. Deer Lodge and Silver Bow Counties lost a combined total of 11.0 percent during this period: Cascade County gained population. Outward migration in all three counties contributed to Montana's relatively slow rate of population increase. We noted that, although the reasons for outward migration are complex, an important contributing factor is probably a relative lack of job opportunities. During the period of 1967 to 1971, Montana growth in employment was 1.0 percent per annum, versus 1.3 percent per annum for the United States. In the census decade from 1960 to 1970, employment in the United States rose 1.7 percent per annum against 0.6 percent for Montana. From these trends we can conclude that in Montana it is necessary to carefully evaluate any moves which might tend to affect the number of jobs available.

We then examined the employment structure of Montana and Silver Bow, Deer Lodge, and Cascade Counties, in which Anaconda operates. In all three counties there was a loss of jobs in agriculture, mining and manufacturing combined between 1967 and 1971, and slow growth in overall employment.

The basic, or export industries, in each county were then

defined. Manufacturing and mining was identified as the most important export segment of the Silver Bow and Deer Lodge economy. For each job in the export industries in these counties there are a total of 2.68 other jobs dependent on the export sector. For each dollar of earnings in the export industries, we calculate there are $2.26 dependent on the export sector. In Cascade County, the military base makes government the dominant export industry, with manufacturing second. The export job multiplier for Cascade is 2.55, and the earnings multiplier is 2.42.

We then reviewed the copper producing operations of the Anaconda Company. The copper is mined at Butte in Silver Bow County, smelted at Anaconda in Deer Lodge County, and further refined at Great Falls in Cascade County.

The Montana copper operations spent a total of $169 million in 1973 for labor and materials, of which $117 million represents payments made in Montana, although not all of these funds remain in the state. Over the past 11 years they have invested $198 million on capital improvements in the three counties, about $18 million a year.

Anaconda employed 5,680 people in its copper operations in 1973. Wages paid were $64 million. Average Anaconda wages have risen from $7,600 in 1963 to $11,300 in 1973.

The company paid $5.6 million of business and license taxes to the state and local governments in 1973, and $5.4 million in

property taxes, for a total of $11.0 million.

In Silver Bow and Deer Lodge, Anaconda employs 5,144 persons, and 8,642 other jobs are directly attributable to the company's role in the economy, for a combined total of 13,786, or 61.8 percent of all jobs in the two counties. That is roughly 6 out of every 10 jobs. Further, Anaconda's total contribution to local employment has risen from 50.4 in 1967. The company's total contribution to earnings in the two counties has risen from $68.0 million in 1967 to $127.5 million in 1973, and from 52.1 percent to 61.8 percent of the two county total earnings.

In Cascade County, Anaconda's total contribution to employment and earnings is less substantial: 3.8 percent, and 5.7 percent respectively.

Anaconda's total contribution to jobs in the three-county area is 26.3 percent, and to earnings, 28.9 percent.

Finally, the estimated share of taxes paid to the state of Montana by businesses and individuals is $12.2 million out of total collections of $162.2 million, or 7.5 percent.

Anaconda's direct and indirect share of property taxes in Silver Bow County was 71.9 percent, and in Deer Lodge County, 83.7 percent. For Cascade County it was 7.0 percent.

The company's share of total property taxes paid in the state was $15.7 million, or 7.2 percent. Its share of taxes of all kinds paid in the state was $28 million or 7.3 percent.

ANACONDA'S MONTANA COPPER OPERATIONS

POPULATION
MONTANA AND SELECTED COUNTIES AND CITIES
1950 - 1973

	Montana	Deer Lodge County	Anaconda	Silver Bow County	Butte	Deer Lodge and Silver Bow Counties	Cascade County	Great Falls
1950	591,024	16,553	11,254	48,422	33,251	64,975	53,027	39,214
1960	674,767	18,640	12,054	46,454	27,877	65,094	73,418	55,244
1970	694,409	15,652	9,771	41,981	23,368	57,633	81,804	60,091
1971	710,000	15,800	NA	42,900	NA	58,700	84,200	61,851
1972	716,000	15,900	NA	42,100	NA	58,000	84,200	NA
1973	721,000	15,800	NA	42,200	NA	58,000	83,700	NA
Total Change 1960-1973	+46,233	-2,840		-4,254		-7,094	+10,282	
Total Percent Change 1960-1973	+6.85	-15.24		-9.16		-10.90	+14.00	

U.S., percent change, 1960 - 1973: +16.60

NA = Not Available

SOURCES: U.S. Department of Commerce, Bureau of the Census: Census of Population, 1960, 1970; and Population Estimates, Montana, 1972, 1973.

ANACONDA'S MONTANA COPPER OPERATIONS

COMPONENTS OF POPULATION CHANGE
1960 - 1973

	Montana	Deer Lodge County	Silver Bow County	Deer Lodge and Silver Bow Counties	Cascade County
Total actual change	+46,233	-2,840	-4,254	-7,094	+10,282
Natural increase (births minus deaths)	+92,350	+1,294	+3,885	+5,179	+16,499
Net migration, total	-46,117	-4,134	-8,139	-12,273	-6,217
Net migration, (% of 1960 population)	-6.8%	-22.2%	-17.5%	-18.9%	-8.5%

SOURCES: U.S. Department of Commerce, Bureau of the Census, City and County Data Book, 1972; and Population Estimates, Montana, 1972, 1973.

ANACONDA'S MONTANA COPPER OPERATIONS

EMPLOYMENT DISTRIBUTION
MONTANA AND U.S. 1970

	Employment		
	Montana		U.S.
	Number	Percent Distribution	Percent Distribution
Farm, including proprietary	38,897	13.7	5.0
Government	59,836	21.2	17.4
Manufacturing	23,828	8.4	22.7
Mining	6,559	2.3	0.7
Construction	10,942	3.9	4.0
Transportation, communications, and utilities	17,246	6.1	5.2
Wholesale and retail trade	48,038	17.1	17.6
Finance, insurance, and real estate	7,809	2.8	4.3
Services	38,119	13.5	15.4
Other, including nonfarm proprietary	30,983	11.0	7.7
Total	282,257	100.0	100.0

SOURCE: U.S. Bureau of Economic Analysis, Regional Economics Information System.

ANACONDA'S MONTANA COPPER OPERATIONS

EMPLOYMENT TRENDS IN MONTANA

	1967	1971	Total % change	Annual % change
Farm, including proprietary	42,136	39,342	-6.6	-1.7
Government	60,545	61,415	+1.4	+0.4
Manufacturing and mining	28,287	28,927	+2.3	+0.6
Construction	11,727	11,505	-1.9	-0.5
Transportation, communications, and utilities	17,525	17,357	-1.0	-0.2
Wholesale and retail trade	44,645	49,302	+10.4	+2.5
Finance, insurance, and real estate	7,168	8,096	+12.9	+3.1
Services	36,147	39,273	+8.6	+2.1
Other, including nonfarm proprietary	27,102	31,577	+16.5	+3.9
Total	275,282	286,794	+4.2	+1.0

SOURCE: U.S. Bureau of Economic Analysis, Regional Economics Information System.

ANACONDA'S MONTANA COPPER OPERATIONS

EMPLOYMENT TRENDS IN
DEER LODGE AND SILVER BOW COUNTIES

	1967			1971				
	Deer Lodge	Silver Bow	Total	Deer Lodge	Silver Bow	Total	Total % change	Annual % change
Farm, including proprietary	171	157	328	158	141	299	-8.8	-2.3
Government	1,661	2,085	3,746	1,969	2,225	4,194	+12.0	+2.9
Manufacturing and mining	1,423	3,450	4,873	1,682	3,181	4,863	-0.2	-0.1
Construction	54	762	816	122	471	593	-27.3	-7.7
Transportation, communications, and utilities	350	838	1,188	299	808	1,107	-6.8	-1.7
Wholesale and retail trade	561	3,007	3,568	624	3,292	3,916	+9.8	+2.4
Finance, insurance, and real estate	71	473	544	109	468	577	+6.1	+1.5
Services	677	2,578	3,255	756	2,699	3,455	+6.1	+1.5
Other, including nonfarm proprietary	320	1,414	1,734	365	1,483	1,848	+6.5	+1.6
Total	5,288	14,764	20,052	6,084	14,768	20,852	+4.0	+1.0

SOURCE: U.S. Bureau of Economic Analysis, Regional Economics Information System.

ANACONDA'S MONTANA COPPER OPERATIONS

EMPLOYMENT TRENDS IN
CASCADE COUNTY

	1967	1971	Total % change	Annual % change
Farm, including proprietary	1,475	1,402	-4.9	-1.26
Government	10,547	11,036	+4.6	+1.14
Manufacturing and mining	2,953	2,492	-15.6	-4.15
Construction	1,955	1,555	-20.5	-5.56
Transportation, communications, and utilities	1,930	1,978	+2.5	+0.62
Wholesale and retail trade	5,751	7,168	+24.6	+5.66
Finance, insurance, and real estate	1,357	1,467	+8.1	+2.0
Services	5,266	5,424	+3.0	+0.7
Other, including nonfarm proprietary	2,450	2,560	+4.5	+1.1
Total	33,684	35,082	+4.2	+1.0

SOURCE: U.S. Bureau of Economic Analysis, Regional Economics Information System.

ANACONDA'S MONTANA COPPER OPERATIONS

LOCAL AND BASIC EMPLOYMENT AND EARNINGS IN SILVER BOW AND DEER LODGE COUNTIES--1970

Industry	Employment			Earnings[a]		
	Local	Basic	Total	Local	Basic	Total
				(thousands of dollars)		
Farm, including proprietary	--	293	293	--	560	560
Government	3,538	561	4,099	20,463	5,770	26,233
Manufacturing and mining	251	5,874	6,125	2,500	56,471	58,971
Construction	574	--	574	6,843	--	6,843
Transportation, communications, and utilities	831	246	1,077	7,722	2,238	9,960
Wholesale and retail trade	3,578	311	3,889	24,294	2,112	26,406
Finance, insurance, and real estate	595	--	595	4,696	--	4,696
Services	2,567	922	3,489	13,140	4,720	17,860
Other, including nonfarm proprietary	1,822	--	1,822	10,714	--	10,714
Total	13,756	8,207	21,963	90,372	71,871	162,243
Multipliers			2.68			2.26

a/ Wage, salary, and proprietary incomes

SOURCE: U.S. Bureau of Economic Analysis, Regional Economics Information System: U.S. Bureau of the Census, 1970 Census of Population; CH2M HILL, Inc., estimates.

ANACONDA'S MONTANA COPPER OPERATIONS

LOCAL AND BASIC EMPLOYMENT AND EARNINGS IN CASCADE COUNTY--1970

Industry	Employment			Earnings[a]		
	Local	Basic	Total	Local	Basic	Total
				---(thousands of dollars)--		
Farm, including proprietary	--	1,384	1,384	--	14,476	14,476
Government	3,695	7,178	10,873	22,205	57,211	79,416
Manufacturing	344	2,520	2,864	2,935	21,497	24,432
Mining	--	49	49	--	387	387
Construction	1,676	68	1,744	20,454	830	21,284
Transportation, communications, and utilities	1,822	196	2,018	16,838	1,811	18,649
Wholesale and retail trade	5,846	963	6,809	39,307	6,475	45,782
Finance, insurance, and real estate	758	622	1,380	6,683	5,484	12,167
Services	4,542	744	5,286	30,711	5,031	35,742
Other, including nonfarm proprietary	2,523	--	2,523	22,027	--	22,027
Total	21,206	13,724	34,930	161,160	113,202	274,362
Multipliers			2.55			2.42

a/ Wage, salary, and proprietary incomes

SOURCE: U.S. Bureau of Economic Analysis, Regional Economics Information System; U.S. Bureau of the Census, 1970 Census of Population; CH2M HILL, Inc., estimates.

ANACONDA'S MONTANA COPPER OPERATIONS

TAX ASSESSMENTS
BY THE STATE OF MONTANA
AND COUNTIES

State Taxes	Fiscal Years 1970-71	1971-72	1972-73	1973-74
	(thousands of dollars)			
State Department of Revenue				
Metalliferous mines license	1,441	1	1,313	1,829
Corporation license	9,596	9,546	11,300	12,057
Natural Resources Indemnity[a]	--	--	--	1,370
Income taxes	38,871	42,381	68,130	70,066
Other taxes	40,661	45,706	55,832	67,402
Total taxes, Department of Revenue	90,569	97,634	136,575	152,724
Unemployment Insurance Payments	6,826	6,979	8,819	9,500[b]
Total State Taxes	97,395	104,613	145,394	162,224
County Property Taxes				
Silver Bow County[c]	11,454	11,769	11,586	14,071
Deer Lodge County	3,052	3,260	3,501	4,011
Cascade County	16,892	17,752	18,004	18,892
Subtotal	31,398	32,781	33,091	36,974
Other Counties	145,890	151,527	163,291	182,127
Total Property Taxes	177,288	184,308	196,382	219,101
Total State and County Taxes	274,683	288,921	341,776	381,325

a/ Tax initiated in 1973: 1973 figure is an estimate by the Department of Revenue.
b/ Estimated by Montana State Employment Security Division.
c/ Includes net proceeds tax.

SOURCES: Montana Taxpayers Association, Montana Property Taxes; Montana State Department of Revenue; Montana State Employment Security Division, Unemployment Insurance Bureau.

ANACONDA'S MONTANA COPPER OPERATIONS

EQUIVALENT POUNDS OF REFINED COPPER
PRODUCED AT BUTTE, ANACONDA,
AND GREAT FALLS

Year	Butte (mined)	Anaconda (smelted)	Great Falls (refined)
	(millions of pounds, refined copper equivalents)		
1969	207.7	287.5	335.5
1970	234.6	312.7	321.1
1971	176.0	271.8	249.4
1972	250.3	359.6	304.5
1973	265.1	353.5	316.9
Total, 5 years	1,133.7	1,585.1	1,527.4

SOURCE: The Anaconda Company

ANACONDA'S MONTANA COPPER OPERATIONS

PAYMENTS MADE TO PARTIES IN SELECTED MONTANA COUNTIES,
MONTANA STATE AND OTHER REGIONS
1973

Expenditures	Deer Lodge	Silver Bow	Cascade	Other Montana Counties	Total Montana	Other Regions	Total
	(thousands of dollars)						
Wages and salaries	18,764	37,641	7,632	--	64,037	--	64,037
Supplies	292	10,813	1,265	3,337	15,707	29,568	45,275
Power and natural gas (Montana Power Co.)	--	10,618	--	--	10,618	--	10,618
Transportation							
Burlington Northern	--	--	--	--	--	5,223	5,223
Milwaukee	--	--	--	--	--	2,927	2,927
Union Pacific	--	--	--	--	--	32	32
Interline Haul[a/]	--	--	--	--	--	3,122	3,122
Trucking and other transportation	231	426	384	10	1,051	193	1,244
Subtotal, transportation	231	426	384	10	1,051	11,497	12,548
Construction and drilling contractors	277	3,036	310	68	3,691	314	4,005
Taxes and other governmental payments	1,779	3,702	565	2,454	8,500	880[b/]	9,300
Other expenses	497	11,677	345	1,092	13,611	9,906	23,517
Total	21,840	77,913	10,501	6,961	117,215	52,165	169,380
Percent of total	12.9	46.0	6.2	4.1	69.2	30.8	100.0

a/ Destination carrier payments by BA&P to numerous carriers including: Burlington Northern, Milwaukee, Union Pacific, and other railroads.
b/ Includes $659,000 for U.S. Savings Bonds, and $221,000 for BA&P Railroad Unemployment Insurance Tax and Retirement Tax.

SOURCE: The Anaconda Company.

ANACONDA'S MONTANA COPPER OPERATIONS

EXPENDITURE FOR CAPITAL PLANT AND EQUIPMENT
1963 - 1973

Year	Anaconda	Butte	Great Falls		BA&P	Total
			Refinery[a]	Wire & Cable		
	(thousands of dollars)					
1963	1,213	38,473	1,191	15	319	41,211
1964	652	10,231	299	15	55	11,252
1965	1,184	4,156	876	256	251	6,723
1966	4,351	14,619	1,164	169	163	20,466
1967	3,115	15,329	734	212	72	19,462
1968	548	1,577	332	109	118	2,684
1969	1,171	3,748	541	21	22	5,503
1970	7,936	21,463	914	149	121	30,583
1971	5,912	10,221	595	137	66	16,931
1972	21,959	6,924	248	35	130	29,296
1973	6,787	5,399	1,111	74	174	13,545
Total 11 years	54,828	132,140	8,005	1,192	1,491	197,656
Yearly Averages	4,984	12,013	728	108	136	17,969

a/ Includes East Helena plant and Great Falls zinc plant, which both closed in 1972.

SOURCE: The Anaconda Company.

ANACONDA'S MONTANA COPPER OPERATIONS

EMPLOYMENT
1950 - 1973

Year	Anaconda	Butte	Great Falls		BA&P	Total
			Refinery[a/]	Wire & Cable		
1950	2,605	5,193	1,397	123	423	9,741
1960	2,144	2,421	972	109	394	6,040
1961	1,765	2,379	1,002	139	436	5,721
1962	1,705	2,398	1,010	126	350	5,589
1963	1,450	2,881	974	126	305	5,736
1964	1,237	3,504	1,020	157	240	6,158
1965	1,149	3,749	1,110	198	192	6,398
1966	1,368	3,915	1,228	210	211	6,932
1967	1,040	2,599	818	222	132	4,811
1968	1,113	1,797	937	161	106	4,114
1969	1,445	2,358	1,195	161	176	5,335
1970	1,554	2,771	1,275	125	217	5,942
1971	1,193	2,340	952	144	164	4,793
1972	1,656	3,049	772	116	141	5,734
1973	1,680	3,305	427	109	159	5,680

a/ Includes East Helena plant and Great Falls zinc plant, which both closed in 1972.

SOURCE: The Anaconda Company.

ANACONDA'S MONTANA COPPER OPERATIONS

WAGES AND SALARIES PAID
1963 - 1973

Year	Anaconda	Butte	Great Falls		BA&P	Total
			Refinery[a/]	Wire & Cable		
	(thousands of dollars)					
1963	11,547	21,295	7,626	770	2,334	43,572
1964	10,248	25,666	8,300	1,019	1,917	47,150
1965	9,896	26,909	9,348	1,376	1,690	49,219
1966	12,196	29,044	10,771	1,466	1,879	55,356
1967	9,149	19,664	6,896	946	1,265	37,920
1968	11,075	16,133	9,105	965	965	38,243
1969	14,657	21,808	11,817	1,214	1,450	50,946
1970	16,549	28,431	12,698	1,192	1,881	60,751
1971	13,492	24,918	10,430	979	1,610	51,429
1972	14,834	34,645	10,374	1,079	1,542	62,474
1973	16,942	37,641	6,517	1,115	1,822	64,037

a/ Includes East Helena plant and Great Falls zinc plant, which both closed in 1972.

SOURCE: The Anaconda Company.

ANACONDA'S MONTANA COPPER OPERATIONS

AVERAGE EARNINGS PER EMPLOYEE

Year	Wages and Salaries Paid ($1,000)	No. of Employees	Earnings per Employee
1963	43,572	5,736	$ 7,596
1964	47,150	6,158	7,657
1965	49,219	6,398	7,693
1966	55,356	6,932	7,986
1967	37,920	4,611	8,224
1968	38,243	4,114	9,296
1969	50,946	5,335	9,549
1970	60,751	5,942	10,224
1971	51,429	4,793	10,730
1972	62,474	5,734	10,895
1973	64,037	5,680	11,274

SOURCE: The Anaconda Company.

ANACONDA'S MONTANA COPPER OPERATIONS

TAXES PAID TO THE STATE OF MONTANA
AND THREE MAJOR COUNTIES
1969 - 1973

	1969	1970	1971	1972	1973
	(thousands of dollars)				
Business taxes and licenses:					
State of Montana:					
Metalliferous mines	1,438	1,975	1,311	1,828	2,247
Resource indemnity[a/]	-	-	-	-	382
Corporation tax	9	37	25	24	250[b/]
Unemployment insurance tax	367	618	413	348	441
Consumers council tax	-	-	-	-	1
Subtotal	1,814	2,630	1,749	2,200	3,320
Silver Bow County:					
Net proceeds	2,708	2,305	-	1,176	2,298[b/]
Licenses	18	14	12	11	16
Subtotal	2,726	2,319	12	1,187	2,314
Deer Lodge County					
Licenses	4	5	5	5	11
Cascade County					
Licenses	1	1	1	1	1
Total business taxes and licenses	4,545	4,955	1,767	3,393	5,647
Property taxes - 3 major counties					
Silver Bow	2,307	2,041	1,881	1,622	3,007
Deer Lodge	1,162	1,302	1,158	1,506	1,873
Cascade	817	921	816	937	481
Total property taxes 3 major counties	4,286	4,264	3,855	4,065	5,361
Total taxes paid - State of Montana and 3 major counties	8,831	9,219	5,622	7,458	11,008

a/ Assessment of Montana's resource indemnity tax and consumers council tax begun in 1973.
b/ Estimate.

SOURCE: The Anaconda Company.

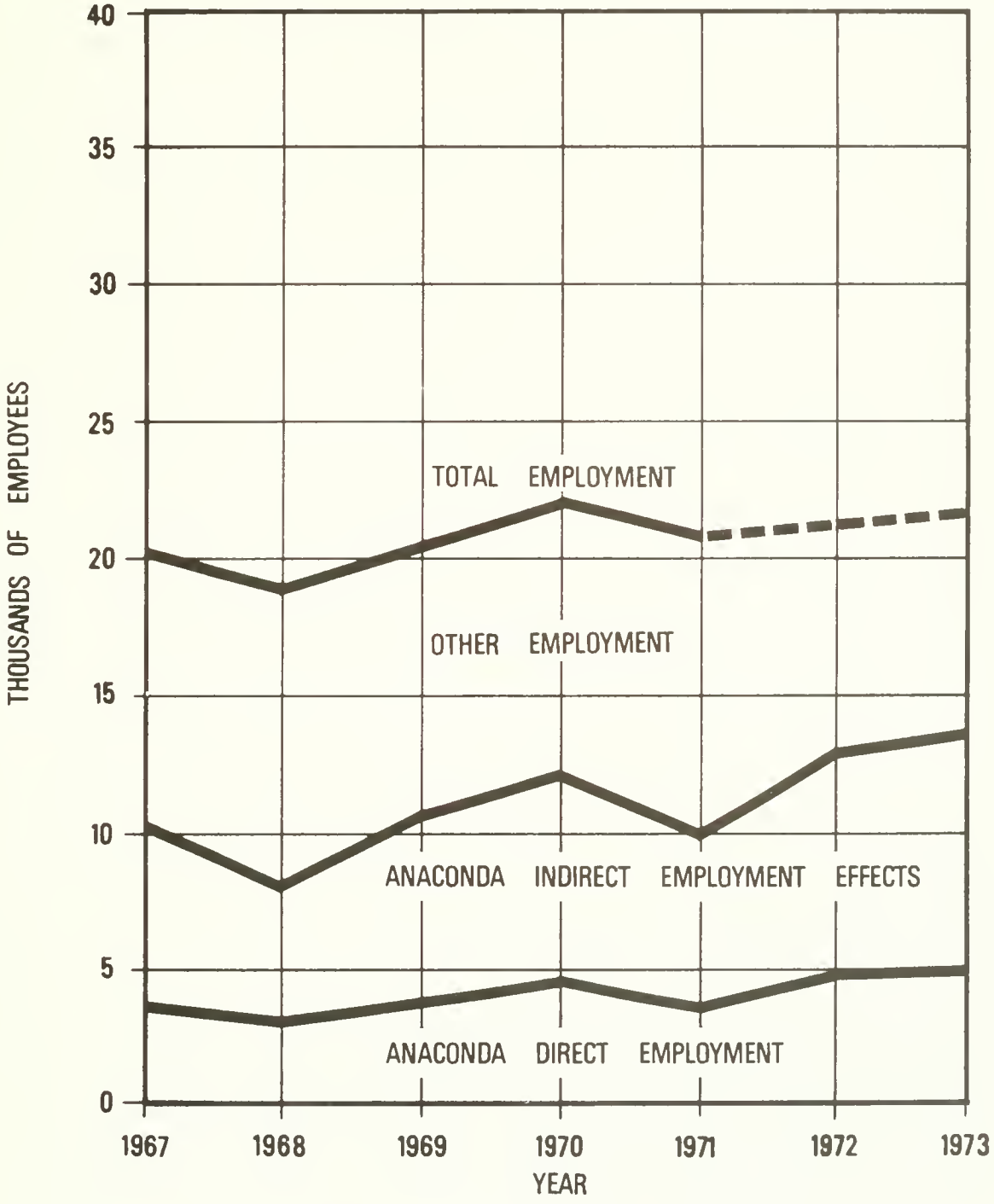
ANACONDA'S MONTANA COPPER OPERATIONS

TOTAL AND ANACONDA INDUCED
EMPLOYMENT IN SILVER BOW -
DEER LODGE AND CASCADE COUNTIES
1967 - 1973

County	Year	Anaconda Induced			Other	Total
		Direct	Indirect	Total		
Silver Bow and Deer Lodge:	1967	3,771	6,335	10,106	9,946	20,052
	1968	3,016	5,067	8,083	10,937	19,020
	1969	3,979	6,685	10,664	9,955	20,619
	1970	4,542	7,631	12,173	9,790	21,963
	1971	3,697	6,211	9,908	10,944	20,852
	1972	4,846	8,141	12,987	8,877[a/]	21,864[a/]
	1973	5,144	8,642	13,786	8,532[a/]	22,318[a/]
Cascade:	1967	1,040	1,612	2,652	31,032	33,684
	1968	1,098	1,702	2,800	31,290	34,090
	1969	1,356	2,102	3,458	31,133	34,591
	1970	1,400	2,170	3,570	31,160	34,930
	1971	1,096	1,699	2,795	32,287	35,082
	1972	888	1,376	2,264	33,302[a/]	35,566[a/]
	1973	536	831	1,367	34,563[a/]	35,930[a/]
Silver Bow, Deer Lodge, and Cascade:	1967	4,811	7,947	12,758	40,978	53,736
	1968	4,114	6,769	10,883	42,227	53,110
	1969	5,335	8,787	14,122	41,088	55,210
	1970	5,942	9,801	15,743	40,950	56,893
	1971	4,793	7,910	12,703	43,231	55,934
	1972	5,734	9,517	15,251	42,179[a/]	57,430[a/]
	1973	5,680	9,473	15,153	43,095[a/]	58,248[a/]

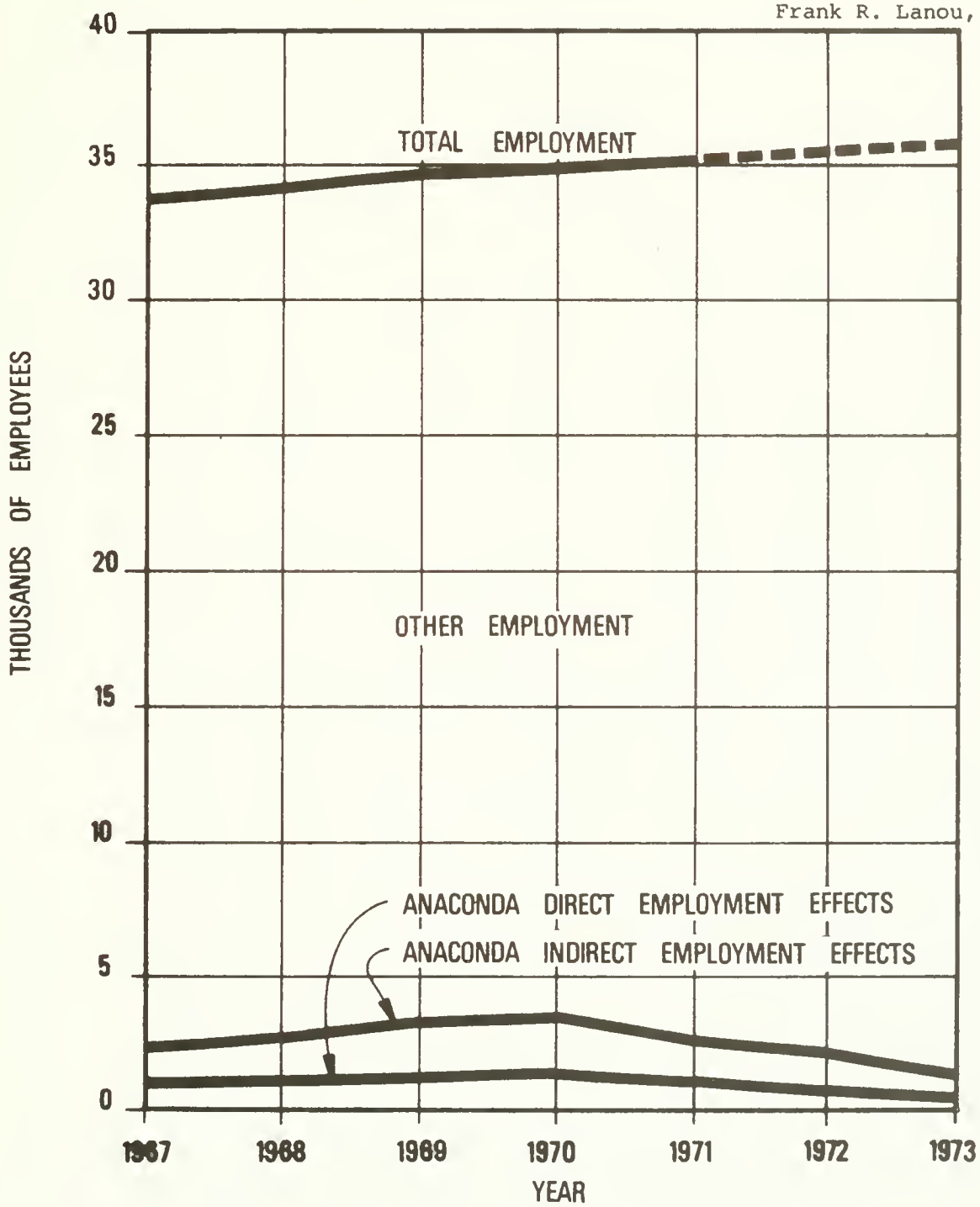
a/ CH2M HILL, Inc., estimates.

SOURCES: U.S. Bureau of Economic Analysis, Regional Economics Information System; CH2M HILL, Inc., estimates.



TOTAL AND ANACONDA INDUCED EMPLOYMENT IN SILVER BOW AND DEER LODGE COUNTIES 1967-1973

CH2M HILL



TOTAL AND ANACONDA INDUCED EMPLOYMENT IN CASCADE COUNTY 1967-1973

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ANACONDA'S MONTANA COPPER OPERATIONS

TOTAL AND ANACONDA INDUCED
EARNINGS IN SILVER BOW -
DEER LODGE AND CASCADE COUNTIES
1967 - 1973

County	Year	Anaconda Induced			Other	Total
		Direct	Indirect	Total		
		(thousands of dollars)				
Silver Bow and Deer Lodge:	1967	30,078	37,898	67,976	62,549	130,525
	1968	28,173	35,498	63,671	65,857	129,528
	1969	37,915	47,773	85,688	57,766	143,454
	1970	46,861	59,045	105,906	56,170	162,076
	1971	40,020	50,425	90,445	71,148	161,593
	1972	51,021	64,286	115,307	58,533[a]	173,840[a]
	1973	56,405	71,070	127,475	55,833[a]	183,308[a]
Cascade:	1967	7,842	11,136	18,978	207,387	226,365
	1968	10,070	14,299	24,369	214,079	238,448
	1969	13,031	18,504	31,535	225,385	256,900
	1970	13,890	19,724	33,614	240,748	274,362
	1971	11,409	16,201	27,610	261,384	288,994
	1972	11,453	16,263	27,716	277,349[a]	305,065[a]
	1973	7,632	10,837	18,469	303,013[a]	321,482[a]
Silver Bow, Deer Lodge, and Cascade:	1967	37,920	49,034	86,954	269,936	356,890
	1968	38,243	49,797	88,040	279,936	367,976
	1969	50,946	66,277	117,223	283,131	400,354
	1970	60,751	78,769	139,520	296,918	436,438
	1971	51,429	66,626	118,055	332,532	450,587
	1972	62,474	80,549	143,023	335,882[a]	478,905[a]
	1973	64,037	81,907	145,944	358,846[a]	504,790[a]

a/ CH2M HILL, Inc., estimates.

SOURCES: U.S. Bureau of Economic Analysis, Regional Economics Information System; CH2M HILL, Inc., estimates.

ANACONDA'S MONTANA COPPER OPERATIONS

ESTIMATED IMPACT ON TAX COLLECTIONS
BY THE STATE OF MONTANA
1973

State Taxes	Anaconda Company	Anaconda Employees	Anaconda Indirect	Anaconda Total	Receipts by State of Montana	Anaconda as a % of Total
	(thousands of dollars)					
Business and miscellaneous taxes	2,879	--	3,743	6,622	67,402	8.0
Personal income tax of employees	--	1,998	2,597	4,595	70,066	6.6
Unemployment insurance	441	--	573	1,014	9,500	10.7
Total	3,320	1,998	6,913	12,231	162,224	7.5
Property Taxes					**Receipts by Counties**	
Silver Bow County	5,305[a]	931	3,884	10,120	14,071[a]	71.9
Deer Lodge County	1,873	352	1,132	3,357	4,011	83.7
Cascade County	481	241	594	1,316	18,892	7.0
Subtotal	7,659	1,524	5,610	14,793	36,974	40.0
All other counties[b]	945	--	--	945	182,127	0.5
Total	8,604	1,524	5,610	15,738	219,101	7.2
Total Taxes	11,924	3,522	12,523	27,969	381,325	7.3

a/ Includes net proceeds tax.
b/ Excludes Anaconda Aluminum Company plant in Flathead County.

SOURCES: Montana Taxpayers Association; Montana Department of Revenue; Montana State Employment Security Division; The Anaconda Company; CH2M HILL, Inc., estimates.